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ABSTRACT

The impact of school-agency partnerships on the professional development of the agency personnel working with teachers on partnership teams was examined in a qualitative study of 18 of 157 natural resources, business, and health care agency professionals identified as having participated in elementary school-based partnerships for 1-6 years in a midwestern state. The professionals were interviewed by telephone to collect demographic information and ascertain how participation in school-based partnerships had affected their attitudes toward schooling/teachers/students and their mastery of Secretary's Commission on Achieving Necessary Skills (SCANS) skills/competencies. The interviews confirmed that participation in a school-based partnership did indeed enhance all three groups' professional development. All three groups of professionals credited participation in a school-based partnership with improving (at least minimally) their competence in many of the 25 SCANS skills/competencies investigated. The natural resources professionals reported the highest levels of professional development, especially in the following areas: interpersonal skills/personal qualities, thinking and basic skills, and managing resources/information. Professional development occurred among the business professionals as well, albeit not as widely or as uniformly as in the case of the natural resources professionals. The health care professionals expressed more focused professional growth than did the natural resources professionals. (Contains 17 references.) (MN)

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Educating the Professionals through School-based Partnerships

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Educating the Professions through School-based Partnerships

Background

Partnerships between schools and agencies have been advocated as a vehicle for professional development and education reform for the past decade. Collaboration among educators at all levels, state and local policy makers, business and industry, parents, and the community at large is seen as a key strategy for successful systemic reform (Earle & Wan, 1995). At the national level, partnerships have been endorsed as a means to achieve improvement in education by the White House Task Force on Education and Economic Growth, the national Commission on Excellence in Education, and the National Science Foundation (Britt, 1985/86). The 1996 NSF invitational conference theme, Dynamic partnerships: Seeding and sustaining education reform, for example, illustrates that agency's "emphasis on collaborative partnerships as the best means to achieve lasting reform in science education" (Williams, 1995, p. 1).

In most communities, local businesses have always played a significant role in the historic development of public education. For example, school boards have had strong representation from the business community (Bastian, Fruchter, Gittell, Greer & Haskins, 1985; First & Walberg, 1992; Peterson, 1985). Today, business leaders recognize that the economy of the 21st century requires new skills; ones which our education system is currently ill-equipped to foster (Friedman, 1994). Further, public and private sector leaders recognize that mutual benefits may accrue from collaborative efforts. Consequently, during the 1980s the private sector decided to re-enter the public schools (Timpane, 1982).

Reagan declared the academic year 1983-84 as the National Year of Partnerships in Education to recognize the cooperative activities already in progress and to stimulate the development of additional partnerships. In 1984, a national survey of all school districts by the Department of Education found over 2000 districts with formal partnerships involving over 46,000 agencies. Between 1984 and 1988 alone, the percentage of schools participating in some kind of partnership increased from 17 to 40 percent (Rist, 1990). By 1989, the Department of Education estimated that over 140,000 school-business partnerships existed nationwide (Rigden, 1991). Currently, it is estimated that 200,000 partnerships are operating in school districts around the country. These partnerships are engaged in a range of activities, from tutoring individual students to assisting in the

restructuring of entire school systems (McDonald, Marchessault, Tobinson & Tangemen, 1993).

Partnerships arise for a variety of reasons. Some, such as the St. Louis School Partnership Program, provide a local solution to the national problem of bridging the gap between public schools and community resources (Stodghill, 1985/86). Many partnerships arise from special studies or task forces of community organizations or school officials concerned about education in general, or science and mathematics education in particular (Blair, Brownstein, Hatry, & Morley, 1990).

Good partnerships can help improve the quantity and quality of links within the educational community and beyond, providing needed resources and opportunities for all those involved. Agencies, such as businesses, can provide financial support, share human resources, provide role models for students, and give advice regarding organizational structure and management techniques to schools. Schools provide agency partners with ways to fulfill their social goals and responsibilities, improve their image in the community, and influence the skills and knowledge of potential of employees (Hall, Castrale, & Zimmerman, 1993). Further, partnerships with schools enable resource professionals to learn about the obstacles to improving education in America's classrooms, to better understand the roles and responsibilities of today's educators, and to recognize how to best apply their varied talents toward creating lasting change (Alberts & Toomi, 1995). Interaction with educators and students has been shown to enhance resource professionals' communication skills, provide them with a new way of looking at and processing job-related information, and offer challenges and stimulation at critical times during their careers (Bainer, Barron, & Cantrell, 1995; Miller, 1993).

While some research has been conducted to investigate the benefits of partnerships for schools, teachers, and students and to assess their impact on classroom instruction and student attitudes and learning, little research has documented the specific impact of school-based partnerships on the partners engaged in those group efforts. Because the assumption is that all participants, not just teachers and students, benefit from the partnering effort, it is important to more fully understand the direct impact of the partnership on the professional development of the agency partners involved.

For the text of this paper, the term "partnership" will refer to a relationship between two or more individuals or agencies, at least one of which is an educator, school, or school district. The term "resource professional" refers to an individual from business, industry or a government agency or a private citizen with some content expertise who engages in a working relationship with educators for the purpose of sharing that expertise to impact education.

Methodology

This symposium presents the results of efforts to better understand the impact of partnerships not on schools and agencies, but on the professional development of agency personnel or professionals joining teachers on those partnership teams. Specifically, the symposium represents a qualitative study of 18 business and agency professionals who have participated in elementary school-based partnerships for one to six years in one Midwestern state. For the purposes of this paper, these individuals will be referred to as "resource professionals." Multiple agencies are involved in these partnering efforts, and the partnerships have been funded by various sources including state and federal grants from the Dwight D. Eisenhower Program for Science and Mathematics Education.

Sample. The resource professionals participating in the partnerships represented three main professions or agency types: natural resources agencies (n = 73), business and industry (n = 64), and health care professionals (n = 20). A purposive sample was drawn from among the resource professionals representing approximately ten percent of each group. Individuals were selected to participate in the study if they were deemed to be engaged in "good" or "strong" partnerships by individuals who initially trained and subsequently supervised the partnership teams. Further, a balance of male and female representatives was selected when possible (all health care professionals were females). The participants were seven natural resources professionals (4 females, 3 males), six business partners (2 females, 4 males), and five female health care professionals. Partnership teams were involved in 32 elementary school classrooms, including 18 primary classes (grades 1, 2, 3), 13 intermediate classes (grades 4, 5, 6), and one special education class. Although the partnership teams ranged in size from two members (one teacher and one resource professional) to 12 members, 14 teams (77.7 %) had five or fewer members. Teams had been engaged in partnering for one to five years with an average of 2.2 years in existence. Most participants related their partnerships as "active" (10 teams, 55.5%) or "very active" (7 teams, 38.8%), and all were either "satisfied" (3 participants, 16.6%) or "highly satisfied" (15 participants, 83.3%) with their partnering experience. Further, all 18 resource professionals interviewed stated that "yes, definitely" they would recommend partnering to their colleagues and agency.

Interview. In order to investigate the impact of partnering on the professional development of resource professionals, the Secretary's Commission on Achieving Necessary Skills (SCANS) report, produced by the U.S. Department of Labor, was utilized as a standard. The report, What work requires of schools: A SCANS report for America 2000 (U.S. Department of Labor, 1991), identified a set of common competencies

and foundational skills shared by all workers. These "lie at the heart of job performance today" (p. vi) and "will define effective work performance for the year 2000" (p. 7). These five competencies and three skills for workplace know-how are presented in Table 1.

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Table 1

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The researchers reviewed the operational definitions and examples of the skills and competencies presented in the SCANS report. Given an understanding of school-based partnerships, categories and subcategories were identified which were deemed as most likely to have been impacted by participation in a partnership. The study was thus delimited to an investigation of three competencies (resources, interpersonal, and information) and three foundational skills (basic skills, thinking skills, and personal qualities) identified by the SCANS report. The skills and competencies used for this study are presented and operationally defined, based on definitions contained in the SCANS report, in Table 2.

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Table 2

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Individuals selected to participate in this study were contacted by letter and sent a copy of Table 2. They were informed that the purpose of the study was to impact how these job-related skills and how they exhibit them in their workplace were impacted by engaging in a partnership. Participants were urged to consider the skills and competencies on the table and to note examples of how these skills had been impacted, either positively or negatively. Telephone interviews approximately 30 minutes in length were set up for each participant within a two week period in mid-August. Interviews were randomly assigned to be conducted by each of the three researchers.

The telephone interview contained three parts. First, demographic information was collected including a description of the participant's job title and responsibilities, characteristics of their partnership, and their satisfaction with partnering. Participants were next asked how their attitudes toward schooling, teachers, the teaching profession, and students had been impacted, if at all, by engaging in a school-based partnership. Finally, participants were interviewed regarding the SCANS skills and competencies. Participants were asked to self-report a ranking of how much, if at all, each skill or competency had been impacted ("decreased skill or competency," "no impact or change," "minimal improvement," "noticeable enhancement," or "very significant enhancement of the skill or competency"). Participants were then probed to explain how their skill in this area had

changed and to attribute that change to some aspect of the partnering experience. Detailed notes were kept by interviewers, and immediately following each interview the notes were transcribed into a standard format for analysis. Self-reports of the magnitude of the impact were coded numerically (-1 = "decreased skill or competency" through +3 = "very significant enhancement"). Frequencies and means were calculated for the numeric data and were presented on a spreadsheet.

Several caveats must be noted when interpreting the numeric data. First, it was apparent from the interviews that the categories and subcategories were confusing to many participants, even with operational definitions. Participants tended to focus either on the traditional meaning of the title of some subcategory (such as reading or writing) with little regard for the somewhat nontraditional delineation of the skills in that area. Further, participants tended to focus on one or two of the many skills delineated in each subcategory, and to assign a numeric rating and expound solely on that particular aspect of the subcategory. Second, the numeric data may reflect variables other than actual change in each subcategory. That is, the degree of change self-reported by the participants may reflect personality, gender, or other factors not investigated in this study. For example, more emotionally reactive individuals may routinely assign higher and lower numbers to subcategories than other individuals. Third, it was sometimes difficult for participants to self-report change and assign numeric codes because the subcategories are not mutually exclusive, even with the operational definitions. Indeed, the SCANS report states that the skills and competencies are "highly integrated" and that "most tasks require workers to draw on them simultaneously" (1991, p. vi).

Interview data was content analyzed by the research team to provide a fuller understanding of the professional development reported by the resource professionals. First, the spreadsheets containing numeric self-reports of change in each skill and competency were examined for each of the three groups of professionals to identify subcategories which seemed most impacted by the partnership experience. The frequency of change within each subcategory was determined by totaling the number of resource professionals who indicated change, either positive or negative, for that skill or competency. The magnitude of change for the group was determined by adding the numeric ratings of change self-reported by the resource professionals, then deriving the mean of each subcategory score. Both the frequency and the magnitude ($X>1.0$) within each category were examined and used as a basis for determining where participants perceived the most change in job-related skills. The categories and subcategories were further investigated in the interview transcripts by the researchers to better understand the

exact nature of the change and to what aspect of partnering it was attributable. These results are presented below by professional group.

Results

Professional Development of Resource Professionals through School-based Partnerships

Seven resource professionals, four females and three males, participated in the study representing the natural resources professions. Four worked for the state Department of Natural Resources (divisions of mining and reclamation, wildlife, real estate and land management, and soil and water conservation), two worked for county resource agencies (soil and water conservation district and office of litter and recycling), and one was employed by a state forest. Of the seven, four had public education as the primary focus of their jobs while one other had education as a minor (15%) of his job description. Two others held jobs unrelated to education or public relations.

Natural resources professionals testified to professional growth in nearly all of the subcategories of skills and competencies identified by the SCANS report. Specifically, in 18 of the 25 skills and competencies investigated in this study (72.0%), more than half of the resource professionals (at least 57.0%) indicated at least minimal improvement in that skill or competency in the workplace as a result of partnering. For the remaining seven skills and competencies (28.0%), at least one individual of the seven interviewed indicated at least minimal improvement. For none of the 25 competencies investigated was no growth reported by the natural resource professionals.

Table 3 shows the mean scores calculated for the magnitude of change reported for each SCANS subcategory of job-related competencies. For eight of those subcategoires (66.7%), at least half of the participants indicated at least minimal enhancement of those skills. For the remaining four subcategories (33.3%), at least one participant indicated some growth. Strong mean scores suggest that the growth was often more than minimal. Mean scores indicate that the greatest self-report of enhancement was evident in the category of Interpersonal competencies, especially "participates as a member of a team (X = 1.6)," "teaches others (X = 1.4)" and "serves clients/customers (X = 1.3)." Enhanced competence in the Resources category, especially "time (X = 1.0)" and "materials and resources (X = 1.3)" and in the Information category, especially "acquiring and evaluating information (X = 1.0)" and "interpreting and communicating information (X = 1.1)," were also noted. All of these mean values suggest self-reports of minimal to noticeable improvement in the competency.

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Table 3

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Similarly, natural resources professionals attested to professional development for all 13 subcategories of the Foundational Skills. Herein, 10 of the 13 subcategories (76.9%) were reported by more than half of the sample as areas of at least minimal growth. In the remaining 3 subcategories (23.1%), at least one participant indicated at least minimal growth. Mean scores on Table 3 show often stronger than minimal change in these skills. The greatest growth was in the Thinking Skills category, with "creative thinking (X = 1.9)," "knowing how to learn (X = 1.4)," "problem-solving (X = 1.1)," and "decision-making (X = 1.0)" subcategories showing the most change. Personal Qualities also showed impressive gains, notably "self-esteem (X = 1.9)," and "self-management (X = 1.1)." Further, three of the four subcategories in Basic Skills showed growth, specifically "speaking (X = 1.7)," "listening (X = 1.3)," and writing (X = 1.0)."

Content analysis of the interviews suggested five general areas or themes of professional development in the resource professionals job-related skills and competencies. These general areas transcend the categories outlined in the SCANS report. Each is discussed below.

One area of obvious change or professional development was in the resource professionals knowledge of and ability to work within the agency. Self-reported comments suggest that they are better, more effective employees. They are better workers; their job-related skills and competencies have improved as a result of partnering and they are, as a result, different in the way they perform their jobs. While they previously worked hard, they are now more able to "work smart." Specifically, participants testified that their understanding of and networking within the agency had improved. Because they needed to identify resources for use in their partnerships, they were "forced" to explore materials and resources available within the agency which they "never bothered to take advantage of before." As a result, they got to know the agency and its many divisions better. Generally, they were "inspired" and "impressed" by the number of resources available of which they were previously unaware. In many cases, this exploration let to better on-going networking within the agency. In some cases, this exploration led to a better understanding of the individuals' job responsibilities and place within the agency, as one resource professional shared.

> "I'm getting a better hold on things here at work because through the partnership I've learned the importance of asking questions. In the schools it is okay to ask questions. I'm now confident enough to

> ask where I didn't used to be. I used to feel guilty if I asked about things that I thought I should know the answer to. Not anymore."

Resource professionals also became better, smarter employees because of the informal education training the partnership experience provided. Resource professionals shared that as a result of partnering they learned and understood many things about effective education and students of which they were previously unaware because most lack a formal education degree. Because most of the resource professionals interviewed for this study had education-related responsibilities as a focus of their job, these skills were directly transferable to similar projects and programs at work. They attested to taking resources, materials, and skills back to the job and of maximizing those with their many education-related responsibilities. One resource professional shared that "all year the wheels were always turning and I kept thinking, 'what can I take back to my job?'"

With the increased responsibilities of participating in a long-term partnership, many resource professionals faced new challenges related to time use and management. Numerous participants shared that they now manage time and are better able to identify responsibilities, prioritize tasks, and structure and organize their time at work. One respondent shared that:

> "Time was something I needed to work on. Because of having to manage it in the partnership I have forced myself to manage it at work."

Additionally, resource professionals are more effective on the job because of enhanced organizational skills. Because the partnership brought them more things to be accountable for, they were more aware of the importance of being organized and doing it well. They attested to being more organized and efficient at acquiring materials related to their job, to organizing those materials, and to generally being more organized on the job because of the partnering experience.

The second theme or area of professional development went beyond the resource professionals enhanced abilities to perform their jobs, and suggested that they are now a different kind of employee. They were thinking about themselves and about their jobs differently as a result of the partnering experience. They were participating in a different way in the agency as a result of the partnership, and this provides many benefits for the agency as a whole. Perhaps most obviously, the agencies benefited from increased visibility due to the participation of resource professionals in the partnerships. They are more widely recognized in school and community populations where it is often difficult to

gain a foothold. Throughout the partnership program, resource professionals have been quick to point out the advantage of this exposure for their agency and the importance of the agency supporting the partnering effort; otherwise their ability to partner would be "crippled."

Less obvious, perhaps, but important is the fact that the resource professionals representing the agencies have been changed by the professional development provided by the partnering experience. Almost all participants attest to being more confident, a trait which has carried into the office and often into their personal lives. They have more confidence in their ability to get things done and to address problems at work. Relatedly, they are more decisive, more responsible, and more assertive. Within the agency, they say that they express their ideas more freely and exercise more leadership than before engaging in partnering. They take more initiative and are better able to distribute work within their departments or work groups. One of the areas of professional development in which the partnering experience provided directly transferable skills was in creative thinking and problem solving. Many resource professionals reported that problem solving started early in the partnership experience with "bouncing ideas off of each other to see if they would work." Throughout the year, many situations were faced that led them through the problem solving process as a team: sitting down together and identifying the problem, considering alternative solutions, discussing possible ramifications, deciding on a course of action, and revisiting or evaluating that decision. Going through this process was "good practice for similar situations on the job." As one resource professional observed,

> "Creativity and problem solving are things that need to be exercised. The partnership gave me a chance to exercise these. Every time I did it stimulated my own process, which helps me on the job when problems arise."

Another resource person shared tremendous growth in her ability to approach and solve problems as a result of the partnership.

> "Partnering has opened my eyes to being flexible. I look at things with less tunnel vision than I used to. I see different ways of solving problems. I see the process not just the end product. For example, I gave a workshop and had planned to be outside. It rained. I altered my plans within ten minutes and adjusted. In the past, I would have lost it. I couldn't handle things not running my way. I attribute this to working with teachers in the partnership."

Areas of thinking other than problem solving and creativity have been impacted by

partnering, making the resource professionals more reflective in general. Some have become more self-monitoring. That is, given feedback they can assess their own skills and performance and turn around and make necessary changes. "Now I make a concentrated effort and think, 'how can I do things differently?'" one resource professional shared. Another added that partnering gave "a path to follow" to becoming more self-managed and responsible in the workplace. Coupled with skills in making long-range plans which were learned from the partnership experience, many resource professionals felt more prepared to direct the quality of their workplace performance. "Knowing the process of learning," one person shared, "causes you to be open to your own learning and the learning of your co-workers." Two of the seven resource professionals shared that the partnership led them to think more deeply, analytically, and reflectively about their job. During a period of reorganization, they were required to value and prioritize their job responsibilities. One shared:

> "During a review, I needed to explain my job. I used process skills learned from the partnership to analyze my job responsibilities and then to communicate them to management in an effective way."

These more confident, reflective resource professionals are an especially valuable resource in division which are moving toward a teaming concept. While some shared that they tended to team with others anyway and others said that their jobs provided little opportunity for them to use their newly acquired teaming skills, others shared that the transition to teaming in the workplace was easy because of the partnership experience. Some told of being cooperative in the past, but now being able to make a greater contribution to the team because they are more confident and know how to share their ideas, "even if they aren't the best -- it's okay." Others realized the "interconnectedness" of teaming efforts and realized the steps necessary to build an effective team effort as a result of their partnership, so easily transferred these skills and information to the effort at work.

Of all the subcategories examined for this study, perhaps the most pronounced way in which these employees were different was in their sense of efficacy and purpose as a result of partnering. Resource professionals truly enjoyed the partnering experience and the time spent with schoolchildren: "I look forward to going out to the school. It's a nice change from pushing papers." But it provided the professionals with more than a break. It increased their sense of efficacy and their belief in their abilities. It stimulated them, and provided them with a fresh outlook on their job as the following two professionals share.

> "As far as the effects on me at the workplace, it has refreshed me. I have a new enthusiasm for my job. I

> can stand back and say, hey, much of what I do may seem routine and office-like, but I also took students to a quarry or planted trees with them. We are providing enrichment and this enthusiasm carries back with me to the office."
>
> "When I participate in (partnership) programs, I feel good about it. I'm upbeat and it carries through at work. I just feel more enthusiastic toward tasks at work that I might not otherwise feel upbeat about."

Some cited incidents in which this renewal and enthusiasm spread to others in the workplace who visited the classrooms as guest speakers or resources. Others shared that their personal lives had also been enriched as a result of this experience, and that members of the partnership had gone beyond a working relationship to become friends. With renewed attitudes toward work because of partnering, some resource professionals expressed a related increased sense of commitment for their job. This was true for at least one "teacher wanna be" who now realized some of her personal desires and needs met through the job-related partnering experience. Others gained a renewed sense of the value and impact of the education-related work in their job description. One poignant illustration:

> "I always felt that children were just children. The partnership elevated my understanding of their value so that now I see them as equal in importance to adults."

As a result, this resource person feels a greater sense of mission and the importance of his education-related work. Many expressed feeling good about the impact they were obviously having on kids, as the following two quotes illustrate.

> "You're the hero at the school and it makes you feel good about yourself, especially when you see the impact you're having on kids."
>
> "You can't always think of what you're getting out of it (i.e., partnering or any endeavor). It's fulfilling to know that you're benefiting others. That's the most fulfillment I've gained -- to see that we're helping to improve environmental education in the schools."

A third theme related to professional development of the resource professionals was changes in their <u>interactions with others in the workplace.</u> This theme is especially notable because interpersonal conflict is the leading cause of employee dismissal. Resource

professionals interviewed for this study reported becoming more sensitive to working with others in the workplace and to thinking more about satisfying the expectations of others. Several comments suggested that this is because they view their relationship with others in the workplace differently, as one quote points out.

> "I have always tried to be responsible but after the partnership experience I look at it differently. If I don't live up to my responsibility, it has a huge impact on others."

Many shared that they are more empathetic at work; including showing that they care more easily. After working with so many types of students from such diverse backgrounds, many resource people found it easier to work with different types of people in the workplace. One resource professional told of overcoming existing "alienation" across divisions by using the teaming skills gained from the partnership. Another shared that interacting with teachers carried over into other workplace relationships. Through the partnership, he was learning to work with women with whom "I hadn't been used to communicating with before." In several instances, resource professionals reported enhanced ability to interact and communicate with their bosses, which began by communicating about the partnership program.

Improved ability to listen to others and to read nonverbal cues as a result of the partnership were cited specifically as reasons for enhanced interaction skills in the workplace. While some resource people approached the partnership classrooms thinking they knew what was needed and how to deliver it, they quickly learned to "step back and listen" to what teachers, students, and administrators were saying through words and nonverbal reactions. As one professional shared,

> "I think I have learned to listen for signs that I may not be 'getting through' with people in the workplace as a result of watching kids in the classroom. I listen and adjust better now."

A fourth theme of professional development among the resource professionals was enhanced <u>communication and articulation.</u> Some resource professionals shared being more clear in their writing as a result of working with young people who had little or no prior background in the topics which they work with daily. More frequently, resource professionals shared having their presentation or public speaking styles impacted by the partnering experience. Many shared having learned from teachers to be more creative in finding ways to interest learners. As a result, they incorporated more variety, such as multimedia, pictures, types of questions, and process skills, into their normal presentation

styles. They also began to think more clearly about their presentations in advance, making more conscious decisions about the best way to do so most effectively.

Because of their increased classroom experience through the partnership, many resource people claimed that they are more comfortable presenting in front of adults. Increased opportunities to speak in front of people and to communicate ideas increased their confidence in doing these things in the workplace, as the following quote shows.

> "I never was comfortable speaking in front of groups; I'm shy. After the partnering experience, I really
>
> have gained confidence in public speaking. This comes out at meetings."

The partnering experience demanded listening, discussion, and conversation in which "you had to choose your worlds wisely in order to communicate with others in the group," which has translated into the workplace throughout the year for many of those individuals who were interviewed. Further, they report being better able to "capture what people are able to understand and to deliver it to them" in the workplace, especially using the inductive approaches learned during the partnering experience.

The fifth theme of professional development or change noted from the interviews with the resource professionals was changes in the way they serve the public, their clients. The partnership experience taught some of the resource professionals to evaluate people and situations differently; to be able to evaluate their needs, desires, and problems. They could then better understand what the clients want in the way of assistance from their agencies and better relate to the kinds of things which those clients, mainly teachers, need. More specifically, partnering taught them to look at school presentations the way educators view them and to better understand the thinking and needs of teachers and the constraints of the classroom. Because of this client-perspective, they could better organize their thoughts ii order to develop experiences and ideas keeping in mind the district course of study and the overall objectives which the teachers need to accomplish. Further, clients are served with a sounder delivery of the services of the agency. Many resource professionals cited changes in the way they present information to both children and adults, about thinking more about the way they relate to any audience, and about their newfound ability to adjust information to a level that any audience can understand. They now consider different learning styles of audiences when speaking or teaching. They are more comfortable working with youth "regardless of their attitude" and are able to manage groups of young people to avoid disruptions of lessons. Also, they are better able to communicate with teachers and other clients. Finally, they self-report that they are able to provide a range of

clients with experiences which they might not otherwise have because they are attempting to do workshops and make presentations which they "never would have attempted prior to partnering.".

Professional Development of Business Professionals through School-based Partnerships

Six resource professionals, four males and two females, participated in the study representing business and industry. Two were "pure" research scientists for a large research and development institute, the remaining four worked for small or mid-sized businesses as managers or coordinators of various departments.

Business professionals reported professional growth in over half (56.0%) of the subcategories of skills and competencies identified by the SCANS report. Specifically, in 14 of the 25 competencies investigated in this study (56.0%), at least half of the business professionals indicated at least minimal improvement in that skill or competency in the workplace as a result of partnering. For eight (32.0%) of the remaining subcategories, at least one individual interviewed indicated at least minimal improvement. For three subcategorize (12.0%), none of the business professionals testified of growth.

Table 5 shows the mean scores calculated for the magnitude of change reported for each SCANS subcategory. Mean scores suggest that the business professionals felt they experienced little growth in the 12 subcategories of essential Competencies. Specifically, for seven (58.4%) of the subcategories, at least half of the participants said that they experienced at least minimal growth. For an additional four subcategories (33.3%), at least one participant indicated at least minimal growth, and no growth was reported by anyone in this sample for one subcategory (8.3%). However, mean scores of at least 1.0 were only seen under three subcategories, indicating low impact of partnering on these job-related competencies. Specifically, Resources in "human resources" (X = 1.0), in the Interpersonal Skills category under the subcategory of "exercises leadership" (X = 1.0), and in the Information category under "interpreting and communicating information" (X = 1.2).

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Table 5

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Business professionals felt they experienced more professional development in the 13 subcategories of Foundational Skills, where seven of the 13 subcategories (53.8%) were identified by at least 50% of the participants of areas of at least minimal skill enhancement. For four of the subcategories (30.8%), at least one participant reported growth, but no business professionals reported growth in 2 or 15.4% of the subcategories.

The most growth was experienced in the category of Personal Qualities, with mean improvement of 1.3 in the "self-esteem" subcategory and of 1.2 in "sociability" and "self-management". The category of Thinking Skills showed two subcategories where business professionals experienced professional development: "creative thinking" (X = 1.3) and "knowing how to learn" (X = 1.0). In the category of Basic Skills, only the "listening" subcategory was reported by business professionals as an area of notable change (X = 1.3). Table 6 shows these results.

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Table 6

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Content analysis of the interviews with business professionals showed four of the five general areas of themes of professional development evident in the analysis of responses from the resource professionals. Each category is described below.

Professional development in the area of knowledge of and ability to work within the agency was evident in the comments shared by the business professionals. Some respondents shared that as a result of engaging in partnering they now plan their days differently, set goals more easily, coordinate activities more efficiently, and use time more wisely. In addition, some attested to a stronger sense of how to store and use supplies. Interestingly, one participant shared that his ability to manage materials actually decreased as a result of the partnership.

> "Due to the volume of materials and hands-on stuff, I have decreased in my ability to deal with stuff! I can't organize it or other stuff the way I used to. I am overwhelmed."

For at least a few employees, the partnership experience enhanced their ability to "work smart" within the agency.

A second, strong theme that emerged from the interview data was that of professional development that led participants to participate in a different way in the agency. As with the resource professionals, business professionals shared comments that indicated that they are a different kind of employee as a result of engaging in partnering. Those with partnering experience found themselves more confident in and proud of what they do, more aware of themselves as professionals and as learners, more capable and comfortable with work responsibilities, and more willing and eager to work with others.

and to enter into unfamiliar situations at work. This was perhaps most evident in enhanced motivation and ability to provide leadership in the workplace. Two of the six professionals interviewed shared that taking initiative and providing leadership was always their weakness, and that as a result of partnering they were now doing better; even more appropriately described as "self-starters," taking on responsibilities outside of their job descriptions because they saw a need. Two business professionals illustrate this in their comments.

> "Before I used to look for direction from others. Now I take the initiative."

> "The change in the way I exercise leadership is very noticeable! I used to hear in my reviews that I needed to take initiative with people and show leadership. I have been doing better and my boss noticed."

Specifically, the business professionals shared enhanced skills in their ability to manage human resources in the workplace. They felt more skilled at allocating people to meet the need of work-related projects, at analyzing and evaluating others' performance at work, at observing and monitoring progress of projects, and at managing people by finding their strengths and building on those rather than focusing on their weaknesses. Relatedly, they felt more skillful at negotiating with colleagues and persuading them to see alternatives and to work toward common goals. Because the partnership forced them to do and explain things in a creative way, they felt they were better able to get others at work to view and engage in tasks with greater motivation and interest.

Business professionals were also different as employees because they possessed sharpened teamwork skills. They were more aware of the need to function as a team and of the place and responsibility each team member has to contribute to the team. Because at least of the two business professionals participated in partnership teams that had some internal conflict, their skills at conflict resolution were enhanced. Further, by working with others in an unfamiliar school situation, they became more aware of the importance of using creative approaches with children and in the workplace. One man shared that he now looks more creatively at how things are done in his workplace and tries to see new and better ways to work and manufacture a product.

Also notable was the change in business professionals' attitude and motivation as a result of partnering. They described being "revitalized" as a result of the experience, of experiencing "more motivation on my job" and having a "refreshed attitude at work that has

helped me a lot." One participant noted that the school culture reminded him of the importance of education on improving oneself, and is now motivated to take continuing education in his area of responsibility. Several noted a "sense of pride" they gained from being able to help the school system; a positive attitude that carried into the workplace.

A third theme that was also evident in the interviews with business professionals was that they experienced changes in their interactions with others in the workplace. Foremost in these comments was increased sensitivity to others in the workplace, especially women and those from different cultures. This arose from working in culturally diverse settings in the classrooms and from working with female teachers. One business professional explained this enhanced sensitivity thusly.

> "The partnership has helped me work with women. I have this preconceived notion that I don't understand women. I have learned that men and women communicate differently and I am getting better at understanding women. I am getting better at communicating with my wife. This is happening because I worked with female teachers."

One participant shared that there are few women in his workplace, and fewer female professionals. As a result of the partnership, he understands and works better with women in that setting as well as with female clients. Other business professionals expressed an altered view of those with whom they work. One shared that he had "an enhanced perception of the depth of people" with whom he worked.

Relatedly, the partnering experience enhanced professionals' understanding of the importance and impact of feedback on those with whom they work. Information shared by business professionals showed that quite different partnership-related experiences led to this realization. Several business professional noted that, having seen the power that recognition had on students, they were aware of this need in their workplace. For example, one business professional shared:

> "It has been a good thing for me to be around kids. I have realized that we are all kids. We need to recognize that we all need to be recognized. If you feed that need in those you work with it will be beneficial in the workplace. Little things make a happier work environment. Everybody needs the equivalent of a gold star for doing good. They all need positive feedback!"

This professional applied what he learned directly to the workplace. He wrote a thank you note to a janitor who helped him move some boxes and to the man's supervisor. The

result: "To this day, the janitor beams when he sees me!" Conversely, one professional from a partnership that initially experienced some conflict shared that he has become "quite thick-skinned" as a result of working with others in the partnership. He observed others on the team delivering feedback "bluntly" because they "did not realize the negative message they were possibly communicating due to their lack of awareness of communication styles". The resulting misunderstandings and conflict taught him to consider the impact of his words and they way he presents feedback to those in the workplace. Many business professionals shared that partnering made them more aware of and better able to deal with people in a positive way which has resulted in enhanced personal relations, a greater ability to work easily with others, greater patience when working with groups of colleagues, and more mentoring of people at work.

More successful interactions with others in the workplace may at least in part be due to expressed enhanced skills in listening and in "reading" verbal and nonverbal communication. Two statements illustrate these awarenesses.

> "As a result of working with teachers I have learned to listen better. I had to listen for their input. I used to try to do all the talking but I have learned the value of listening."

> "Working with students taught me to appreciate how different people send messages verbally and nonverbally. Now, when I pick up on these cues at work I adjust how I am communicating. Before I did not alter my approach. This is a significant change."

The fourth theme of professional development among the business professionals was enhanced communication and articulation. Several business professionals shared that one of the greatest impacts of the partnership was getting them to feel more comfortable and skillful in speaking to others.

> "Group presentations were always something I feared. By doing them in school on a routine basis I speak comfortably in front of groups. I have developed a level of prowess."

They expressed enhanced ability to clearly communicate concepts to a variety of audience types, to "read" nonverbal cues that indicate the audience's level of engagement, and to use "fun activities with an underlying reason." Many business professionals became aware of different learning styles and were better communicators because they realized that people learn differently -- adults as well as children. As a result, business professionals shared

that they communicate better in the workplace both informally and formally. This transfer of communication ability to the workplace was summed up by one business professional:

> "If I can teach to second graders and be understood, then I have been successful. I can make peers understand anything!"

Professional Development of Health Care Professionals through School-based Partnerships

All of the five individuals interviewed in this study were female health care professionals involved in various aspects of nursing during their partnering experience. Two are practicing registered nurses, two are nursing instructors and the other participant is an educational consultant for the county health department. Of the two practitioners, one works in a coronary care unit serving patients in with severe cardiac problems while the other works part time in cardiac care and part time in cardiac research. The two nursing instructors are both veteran teachers with extensive clinical and educational experience. Finally, the health care professional employed with the county health department, serves schools and the wider community in an effort to raise public understanding regarding common health problems.

Four of the health care professionals interviewed reported that they had enjoyed a "true partnership" with their teacher partner in which they established joint goals and worked collaboratively to effect those goals. One nurse, however, functioned more as a guest speaker. In her "partnership," she visited school twice a week during the year and gave instruction to a class of fourth grade children typically without the presence of the classroom teacher. Each of these participants worked at least one year in school-based partnerships in which they reported being highly satisfied with the experience, believing that they had accomplished the goals established for their partnership, and stating that they would definitely recommend a school partnership to colleagues.

The health care professionals interviewed for this study reported enhanced skills and competencies over a wide range of the SCANS objectives. While one health care professional noted that they were more likely to be timely in keeping appointments, another commented that they had become more sensitive to the underlying needs of clients. Another reported becoming more skillful in evaluating the strengths and weaknesses of co-workers. It was clear from the data that each of these participants came away from the partnering experience with a unique set of skills and competencies based upon their prior background and their experience within the partnership. It is important to note that each individual reported that the experience of working with a teacher in a school helped them to

grow in a variety of professional competencies.

The data also suggest that there are certain dimensions of the SCANS objectives in which these health care professionals as a group perceived no enhancement of their skills and competencies. Three of these categories were under the competency category of information: "acquires and evaluates information," "organizes and maintains information," "interprets and communicates information." The other category was one of the basic skills, "reading." For each of these four categories, no participant reported deriving any enhancement of skill or competence in their work from their partnering experience.

Generalizations can be drawn for a number of the SCANS categories in which these health care professionals agreed that their professional performance was enhanced by their school experience. All of these enhancements occurred in the realm of foundational skills with the exception of two interpersonal competencies - "teaching others" and "exercising leadership." The foundational skills in which participants generally noted growth were the basic skills of "listening" and "speaking," and the personal qualities of "responsibility," "self-esteem," and "self-management."

The area of greatest growth reported by this group of professionals was in the domain of personal qualities ("responsibility," "self-esteem," and "self-management"). Not only did participants report "very significant change" in this domain, but their comments suggested that these were key areas of enhancement in their professional life.

Instrumental in these changes involving a nurse's personal skills seemed to be their perception of growth in "self-esteem." Participants reported that they felt "incredibly valued" in the schools. One individual commented:

> "Students loved it when I came in. They greeted me with hugs and notes. They and the teacher respected my knowledge. The teachers told me that my presentations were fantastic and better than they would have received in-house. This was a great ego boost and affirmed me as a person and as a professional."

Consequently they came to view themselves and their professional work as more meaningful and significant and the areas of "responsibility" and "self-management were significantly impacted for these health care professionals. Regarding the subcategory of "responsibility," one individual commented that she was "more punctual in getting to meetings on time," another noted she was "more aware of responsibility to others in the workplace" while a third observed that she "takes work less for granted." Self-management seemed to be impacted in terms of setting, maintaining and evaluating goals in the

workplace. Participants attributed growth in "responsibility" and "self-management" to the greater sense of accountability they experienced given that teachers and children were counting on them and anticipating and expecting their best effort.

Based on their comments, it seems that much of the growth experienced by these nurses can be related to their growth in self-esteem and ultimately to seeing themselves and their professional expertise valued by teachers and students. For example, in speaking about ways that the partnership brought about change in self-management one participant said: "Seeing the greater importance of my work has clarified my goals." Therefore it seems that in coming to view themselves and their work as more valuable, these professionals came to take more responsibility for their work which would include managing one's goals and productivity.

Interestingly, the nurse who did not experience a collaborative and supportive relationship with her teacher partner reported that she did not grow in self-esteem and in fact felt de-valued. She also did not report any enhancement in her work in the areas of "responsibility" and "self-management." This individual's description of her experience stands as a contrasting example of one whose experience ran counter to the other participants. Her reports of a lack of growth in key areas related to self-esteem serve to confirm the notion that the valuing of one's work is a key element in professional growth.

It is not surprising that professionals involved in a school-based partnership would experience and increase in their ability to help others learn. Participants generally agreed that they had become better able to teach students and patients as a result of their partnering experience. One nursing instructor observed that she was, "better able to relate to the needs of beginning nursing students" saying that "it is easy to forget what it is like to be at the beginning level of learning." Another clinical practitioner noted that she "is better able to inform patients regarding information on medial procedures by taking into account the ways people learn."

The new found skill in teaching others seemed closely related to another skill in which participants noted significant gains in the workplace - "listening." Increases in the ability to listen were quite pronounced for this group. One individual commented:

> "When someone approaches me at work, I respond by listening first, then speaking - to hear what they are trying to communicate. I find you learn a lot from listening."

Still another observed:

> "I am more aware of what patients are saying - more sensitive to their body language and when people are

> not getting it. For example, recently one patient was not looking at me while I was trying to explain a medical procedure so I started asking questions to see where they were lost."

It is interesting to see the connection between the increased ability to teach others and growth in listening skills in the reports that participants gave to account for the ways in which their partnering experience promoted the growth of these skills. In general they spoke of their discoveries regarding the importance of reading children's nonverbal messages in their body language and moods. One nurse commented that:

> "Children are very open and communicate openly. They have individual ways of getting your attention or communicating. Sometimes you lose sight of how different people are. You forget this when communicating with adults."

Another health care professional observed similarly:

> "The body language of children speaks so loudly because they are so physical. The responsibility of keeping their attention developed the ability to focus on their level attention and engagement and helped me read those signs in others."

It seems then that this group of professionals viewed themselves as better listeners and better able to teach and communicate with their students and patients as a result of working in their partnerships.

Another basic skill that was reportedly enhanced by partnering was the skill of speaking. Apparently through the practice and necessity of having to be well prepared for classroom presentations and also gaining experience in the give and take of communication with children, these professionals developed their speaking ability. One individual observed:

> "School and that interaction with children requires you to get feedback which requires you to seek verbal and non-verbal cues concerning comprehension and engagement. You come to realize the need to communicate in a way they can understand."

These health care professionals noted that they are more aware of the need to plug into the experience of their patients of students in order to communicate concepts. One of the nurses commented:

> "When educating patients, I explain the literature that give them. I also draw on their experience by trying to find out who they are and use examples that I think will communicate the ideas. I draw pictures to explain things."

Apparently what these professionals developed was their ability in perspective-taking by being placed in situations where it was crucial to understand the perspective and level of understanding of the children they were teaching.

Finally, the nurses in this study reported an increased competence in "exercising leadership." They reported such things as being "more willing to project and assert ideas in a positive and confident manner." Again this change was attributed to an increase in self-esteem. One individual attributed a greater willingness to take leadership to "the realization and sense of being valued by my team and children and the sense of having accomplished something significant."

Discussion and Conclusions

The results of these interviews suggest that professional development did indeed occur for resource professionals as a result of participating in partnerships. The impact of the development was wide, including at least minimal growth by most of those who were interviewed in 72% of the foundational skills and competencies identified as essential to success in the workplace by the SCANS report. Professional development was greatest in interpersonal skills and personal qualities, thinking and basic skills, and managing resources and information. These enhanced abilities led to resource professionals who were more effective at performing their jobs, but also who were a different kind of employee. They provided benefits to the agency by completing their jobs with more confidence and initiative, greater thinking and reflective abilities, and more enthusiasm and a greater sense of purpose. Further, they interacted more positively with others in the workplace, communicated more effectively, and served clients more adeptly.

The results of these interviews suggest that professional development did indeed occur for the business professionals as well. That impact, however, was not as widely experienced across the categories of foundational skills and competencies of the SCANS report, nor was it as uniformly experienced across the business professionals interviewed. Further, the business professionals did not express that their skills were as greatly enhanced as did the resource professionals. This is evident in the frequency and mean scores for the SCANS subcategories. The professional development experienced by business professionals focused on two areas. The first was communication with others in

the workplace. Here professionals expressed enhanced ability to communicate with others in a sensitive manner, including minorities and women, and realized the impact of feedback and the way it is presented. The second impact was in the way they participated in their workplace. They were stronger, more successful and more eager leaders. Growth was especially evident in the way they managed human resources and took initiative in the workplace.

Similarly, health care professionals expressed more focused professional growth than did natural resources professionals. Strongest growth for these professionals was in communication with others, including clients and coworkers. This included enhanced skills in listening, and related skills in communicating effectively with a range of adults. More effective job management and enhanced attitude toward work were also areas of growth which were a focus of the health care professionals comments and frequency and mean scores.

A more thorough investigation of these data, especially focused on similarities and differences in the professional development expressed by the three groups of professionals, is in order to fully understand the impact of partnerships on the job-related skills of the three groups of professionals involved in this study. A preliminary overview of the data suggests that the wide impact of the partnership experience on these resource professionals may be attributable to the fact that many of those interviewed had education as a primary or secondary focus of their job description, so the partnering skills were easily transferred to the workplace. Perceived differences in professional development may also reflect gender or by individual differences in verbal expressiveness. These and other questions related to the impact of the partnering experience need further investigation in order to be fully understood. It may be necessary to conduct longer interviews or a series of interviews to more carefully explore and delineate the workplace skills embedded within each subcategory of the SCANS skills and competencies. Further, participants should be probed for skills and competencies in which they experienced growth but for which they currently have no opportunity to exhibit those skills in the workplace. That is, potential as well as actual growth should be explored to assess the full impact of the partnering experience. Finally, it must be remembered that the skills and competencies delineated by the SCANS report target entry-level positions within businesses and agencies. As such, one might expect minimal change, if any, in the development of experienced professionals as measured by the SCANS categories. The scale might not be entirely appropriate nor sensitive enough to measure the categories and magnitude of change in experienced professionals such as those engaged in this study.

Table 1: Competencies and Foundational Skills Identified by the SCANS Report (1991)

Workplace Know-how

The know-how identified by SCANS is made up of five competencies and a three-part foundation of skills and personal qualities that are needed for solid job performance. These include:

COMPETENCIES -- effective workers can productively use:

* **Resources** -- allocating time, money, materials, space, and staff;
* **Interpersonal Skills** -- working on teams, teaching others, serving customers, leading, negotiating, and working well with people from culturally diverse backgrounds;
* **Information** -- acquiring and evaluating data, organizing and maintaining files, interpreting and communicating, and using computers to process information;
* **Systems** -- understanding social, organizational and technological systems, monitoring and correcting performance, and designing or improving systems;
* **Technology** -- selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies.

THE FOUNDATION --competence requires:

* **Basic Skills** -- reading, writing, arithmetic and mathematics, speaking, and listening;
* **Thinking Skills** -- thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn and reasoning;
* **Personal Qualities** -- individual responsibility, self-esteem, sociability, self-management, and integrity.

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Table 2: Modified SCANS Competencies and Skills Used in Study

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SCANS Report on Workplace Know-How

The know-how identified by SCANS is made up of five competencies and a three-part foundation of skills and personal qualities that are needed for solid job performance. We are interested in your perception of how, if at all, your use of these skills and competencies in the workplace has been impacted by your partnering experience. Please make notes to yourself to illustrate your thinking or reaction to your experience. It would be helpful if you could specify how partnering has impacted your competencies and skills in each area: i.e., decreased skill or competency, no impact or change, minimal improvement, notable enhancement, very significant enhancement of skill or competency.

COMPETENCIES

1. Resources - Identifies, organizes, plans and allocates resources

A. Time - Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules
B. Material and Facilities - Acquires, stores, allocates, and uses materials or space efficiently
C. Human Resources - Assesses skills and distributes work accordingly, evaluates performance and provides feedback

2. Interpersonal: Works with Others

A. Participates as Member of a Team - Works cooperatively with others and contributes to group with ideas, suggestions, and effort
B. Teachers Others - Helps others learn
C. Serves Clients/Customers - Works and communicates with clients and customers to satisfy their expectations
D. Exercises Leadership - Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces or otherwise motivates an individual or groups, including responsibly challenging existing procedures, policies, or authority
E. Negotiates - Works towards an agreement that may involve exchanging specific resources or resolving divergent interests
F. Works with Cultural Diversity - Works well with men and women with a variety of ethnic, social, or educational backgrounds

3. Information - Acquires and Uses Information

A. Acquires and Evaluates Information - Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy
B. Organizes and Maintains Information - Organizes, processes, and maintains written or computerize records and other forms of information in systematic fashion
C. Interprets and Communicates Information - Selects and analyzes information and communicates the results to others using oral, written, graphic, pictorial, or multi-media methods

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Table 2, cont.

FOUNDATIONAL SKILLS

1. Basic Skills

A. Reading - Locates, understands, and interprets written information in prose and documents to perform tasks; learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary; judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers

B. Writing - Communicates thoughts, ideas, information, and messages in writing; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject matter, purpose, and audience

C. Listening - Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose

D. Speaking - Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion, and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed

2. Thinking Skills

A. Creative Thinking - Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities

B. Decision Making - Specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives

C. Problem Solving - Recognizes that a problem exists, identifies possible reasons for the problem, and devises and implements a plan of action to resolve it; Evaluates and monitors progress and revises plan as indicated by findings

D. Knowing How to Learn - Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations

E. Reasoning - Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem

3. Personal Qualities

A. Responsibility - Exerts high level of effort and perseverance; works hard at setting high standards and paying attention to details, working well, and

Table 2, cont.

displaying high level of concentration even when assigned an unpleasant task; displays enthusiasm, vitality, punctuality, and optimism in approaching and completing tasks

B. Self-Esteem - Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; knows own emotional capacity and needs and how to address them

C. Sociability - Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and on-going group settings; asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; takes an interest in what others say and do

D. Self-Management - Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals; monitors progress toward goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and non defensively; is a "self-starter"

Table 3: Natural Resource Professionals' Self-Reports of Change in Job-related Competencies

Category	Participants Who Reported Change (n=7)	(%)	Magnitude of Change	Mean Change
Resources				
Time	3	43	7	1.0
Materials	5	70	9	1.3
Human resources	3	43	5	0.7
Interpersonal				
Teaming	6	86	11	1.6
Teaches others	6	86	10	1.4
Serves clients	4	57	9	1.3
Exercises leadership	4	57	6	0.9
Negotiates	3	43	5	0.7
Works with diversity	3	43	5	0.7
Information				
Acquires and evaluates	5	71	7	1.0
Organizes	5	71	6	0.8
Interprets and communicates	5	71	8	1.1

Table 4: Natural Resource Professionals' Self-reports of Change in Job-related Foundational Skills

Category	Participants Who Reported Change (n=7)	(%)	Magnitude of Change	Mean Change
Basic skills				
Reading	2	29	4	0.6
Writing	4	57	7	1.0
Listening	6	86	9	1.3
Speaking	6	86	12	1.7
Thinking skills				
Creative thinking	6	86	13	1.9
Decision making	4	57	7	1.0
Problem solving	6	86	8	1.1
Know how to learn	5	71	10	1.4
Reasoning	1	14	1	0.1
Personal Qualities				
Responsibility	3	43	6	0.8
Self-esteem	7	100	13	1.9
Sociability	5	29	5	0.7
Self-management	5	71	8	1.1

Table 5: Business Professionals' Self-reports of Change in Job-related Competencies

Category	Participants Who Reported Change (n=6)	(%)	Magnitude of Change	Mean Change
Resources				
Time	2	33	3	0.5
Materials	2	33	1	0.2
Human resources	4	66	6	1.0
Interpersonal skills				
Teaming	3	50	5	0.8
Teaches others	3	50	4	0.7
Serves clients	3	50	3	0.5
Exercises leadership	5	83	8	1.0
Negotiates	3	50	5	0.8
Works with diversity	2	33	3	0.5
Information				
Acquires and evaluates	0	0	0	0.0
Organizes	1	16	1	0.2
Interprets and communicates	3	50	7	1.2

Table 6: Business Professionals' Self-Reports of Change in Job-related Foundational Skills

Category	Participants Who Reported Change (n=6)	(%)	Magnitude Change	Mean Change
Basic skills				
Reading	0	0	0	0.0
Writing	0	0	0	0.0
Listening	4	66	8	1.3
Speaking	3	50	5	0.8
Thinking skills				
Creative thinking	4	66	8	1.3
Decision making	2	33	5	0.8
Problem solving	2	33	4	0.7
Know how to learn	3	50	6	1.0
Reasoning	1	16	1	0.2
Personal qualities				
Responsibility	1	16	3	0.5
Self-esteem	4	66	8	1.3
Sociability	4	66	7	1.2
Self-management	3	50	7	1.2

Table 7: Health Care Professionals' Self-reports or Change in Job-related Competencies

Category	Participants Who Reported Change (n=5)	(%)	Magnitude of Change	Mean Change
Resources				
Time	1	20	1	0.2
Materials	2	40	4	0.8
Human resources	0	00	0	0.0
Interpersonal skills				
Teaming	2	40	3	0.6
Teaches others	3	60	5	1.0
Serves clients	3	60	5	1.0
Exercises leadership	2	40	3	0.6
Negotiates	1	20	1	0.2
Works with diversity	2	40	2	0.4
Information				
Acquires and evaluates	0	00	0	0.0
Organizes	0	00	0	0.0
Interprets and communicates	0	00	0	0.0

Table 8: Health Care Professionals' Self-reports of Change in Job-related Foundational Skills

Category	Participants Who Reported Change		Magnitude of Change	Mean Change
	(n=5)	(%)		
Basic skills				
Reading	1	20	1	0.2
Writing	2	40	3	0.6
Listening	4	80	9	1.8
Speaking	2	40	4	0.8
Thinking skills				
Creative thinking	3	60	6	1.2
Decision making	1	20	1	0.2
Problem solving	0	00	0	0.0
Know how to learn	2	40	2	0.4
Reasoning	1	20	1	0.2
Personal Qualities				
Responsibilities	3	60	7	1.4
Self-esteem	3	60	9	1.8
Sociability	2	40	5	1.0
Self-management	3	60	5	1.0

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